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References

1. Cooper AB, Sharpe MD. Bacterial meningitis and *cauda equina* syndrome after epidural steroid injections. *Can J Anaesth* 1996;43(5 pt 1):471–4.
2. Snarr J. Risk, benefits and complications of epidural steroid injections: a case report. *AANA J* 2007;75:183–8.
3. Kolbe AB, McKinney AM, Kendi AT, Misselt D. *Aspergillus* meningitis and discitis from low-back procedures in an immunocompetent patient. *Acta Radiol* 2007;48:687–9.
4. Verweij PE, Brinkman K, Kremer HP, Kullberg BJ, Meis JF. *Aspergillus* meningitis: diagnosis by non-culture-based microbiological methods and management. *J Clin Microbiol* 1999;37:1186–9.
5. Viscoli C, Machetti M, Gazzola P, et al. *Aspergillus* galactomannan antigen in the cerebrospinal fluid of bone marrow transplant recipients with probable cerebral aspergillosis. *J Clin Microbiol* 2002;40:1496–9.
6. Rodrigo N, Perera KN, Ranwala R, Jayasinghe S, Warnakulasuriya A, Hapuarachchi S. *Aspergillus* meningitis following spinal anaesthesia for caesarean section in Colombo, Sri Lanka. *Int J Obstet Anesth* 2007;16:256–60.

Multistate Fungal Meningitis Outbreak — Interim Guidance for Treatment

CDC and the Food and Drug Administration (FDA) continue to work closely with state and local public health departments on the multistate meningitis outbreak investigation of fungal infections among patients who received a steroid injection of a potentially contaminated product into the spinal area. The investigation also includes possible fungal infections associated with injections in a peripheral joint space. These cases are associated with a potentially contaminated steroid medication prepared by New England Compounding Center (NECC) in Framingham, Massachusetts.

Fungal meningitis pathogens that have been found in the investigation include *Exserohilum* and *Aspergillus*. *Exserohilum rostratum* (a brown-black mold) is the predominant pathogen in this outbreak, and expert opinion and published literature

indicate that voriconazole might be effective in treating infections caused by brown-black molds and infections caused by *Aspergillus* species. CDC interim guidance for treatment of adult patients with central nervous system and/or parameningeal infections associated with injections of potentially contaminated steroid products from NECC and CDC interim guidance for treatment of adult patients with septic arthritis associated with intra-articular injections with potentially contaminated steroid products from NECC recommend empiric antifungal therapy.

Additional information is available at http://www.cdc.gov/hai/outbreaks/clinicians/guidance_cns.html and http://www.cdc.gov/hai/outbreaks/clinicians/interim_treatment_options_septic_arthritis.html.